

## *Astragalus zemuensis* W. W. Smith (Fabaceae) Belongs to *Oxytropis* DC.

Lal Babu CHAUDHARY

Plant Biodiversity and Conservation Biology Division,  
National Botanical Research Institute, Lucknow-226 001, INDIA  
E-mail: dr\_lbchaudhary@rediffmail.com

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Examination of the type specimen of *Astragalus zemuensis* W. W. Smith reveals that it belongs to *Oxytropis* DC. A new combination *Oxytropis zemuensis* (W. W. Smith) Chaudhary is proposed.

**Key words:** *Astragalus*, Fabaceae, new combination, *Oxytropis zemuensis* (W. W. Smith) Chaudhary.

While revising Indian *Astragalus* L., the author reassessed *Astragalus zemuensis* W. W. Smith, a species endemic to India (Sikkim). On the basis of beaked keel (Ali 1977, Polhill 1981, Zhu and Ohashi 2000, Kumar and Sane 2003, Lock and Schrire 2005) it clearly belongs to *Oxytropis* DC. Although pod septum may also be taken into account for separating *Astragalus* and *Oxytropis* only when pods are bilocular it is not applicable to *Astragalus zemuensis* where the pods are unilocular. Polhill (1981) has also used leaflets as a key character (symmetrical in *Astragalus* and basally unequal-sided or if narrow, falcately incurved in *Oxytropis*) to differentiate the genera. However, in recent works (Kumar and Sane 2003, Lock and Schrire 2005) this character has not been considered as diagnostic character of *Astragalus* and *Oxytropis*. Therefore, in the present work only keel petal, the main distinguishing character of *Oxytropis* from *Astragalus* has been taken for the transfer of *Astragalus zemuensis* from *Astragalus* to *Oxytropis*.

Since the protologue by Smith and Cave (1911) provides only a brief description and

the species has not been illustrated and dealt elaborately elsewhere (Grierson and Long 1987, Sanjappa 1992, Podlech 1999, Kumar and Sane 2003), a detailed description and illustration of the species are provided here. The species was collected again only once in 1915 from the same region.

***Oxytropis zemuensis*** (W. W. Smith) Chaudhary, comb. nov. [Figs. 1–2]

*Astragalus zemuensis* W. W. Smith in Rec. Bot. Surv. India 4: 185 (1911) – Grierson & Long, Fl. Bhutan 1: 720 (1987) – Sanjappa, Legum. India: 96 (1992) – Kumar & Sane, Legum. South Asia: Checkl.: 245 (2003). **Type:** INDIA, Sikkim, Zemu Valley, 3660 m, 12 July 1909, Smith & Cave 1222 (holo-CAL !: photo-LWG !).

Prostrate with long rootstock, up to 18 cm long, stem very short to 6 cm long, many arising from the base, usually with contracted internodes, remains covered with persistent stipules and leaf rachis, thinly pilose with white, adpressed hairs. Stipules 5–7 × 2 mm, persistent, connate and adnate up to the middle on the back of petiole (free portion 2–4 mm long), partially sheathing the stem,

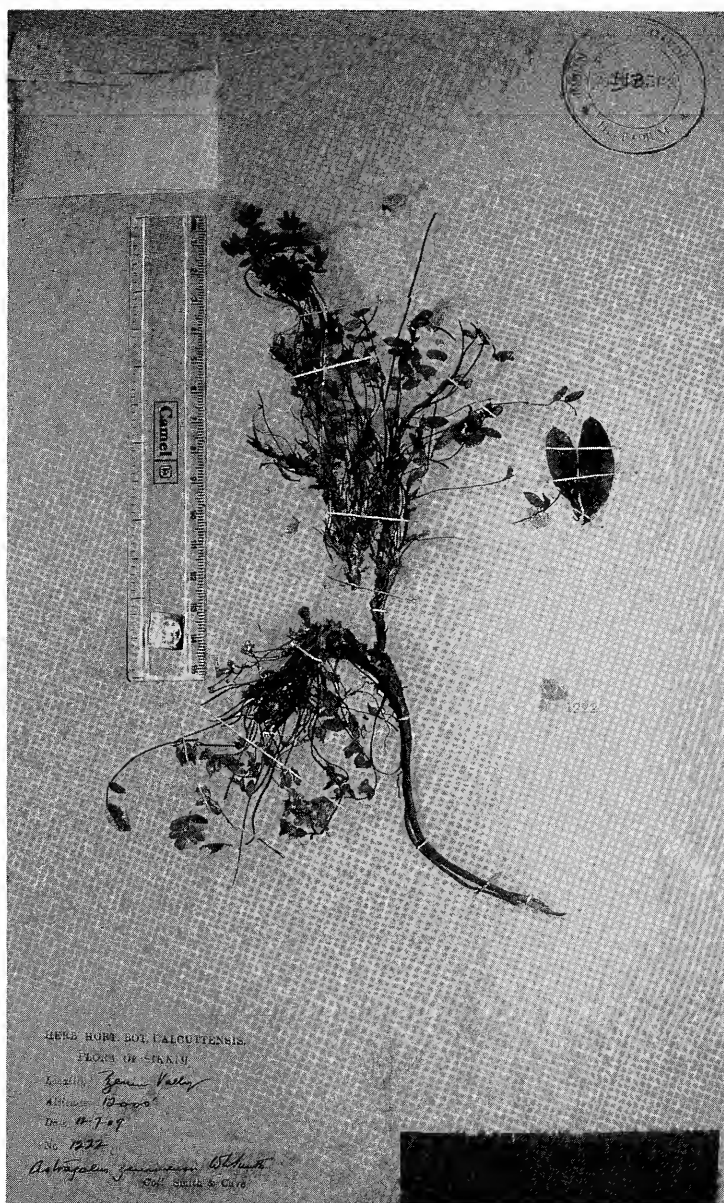


Fig. 1. *Oxytropis zemuensis* (W. W. Smith) Chaudhary (Smith & Cave 1222, holotype, CAL).

lanceolate, acute at apex, pilose with white (or sometimes mixed with few black), adpressed hairs. Leaves 5–12 cm long, imparipinnately compound; petioles 3–4.5 cm long, rachis and petiole glabrescent to

thinly pilose, hairs as similar to stem; leaflets 5–10 × 3–5 mm, 11–17, subsessile, alternate to opposite, oblong or ovate, cuneate or obtuse at base, acute to obtuse at apex, glabrescent to thinly pilose with white,

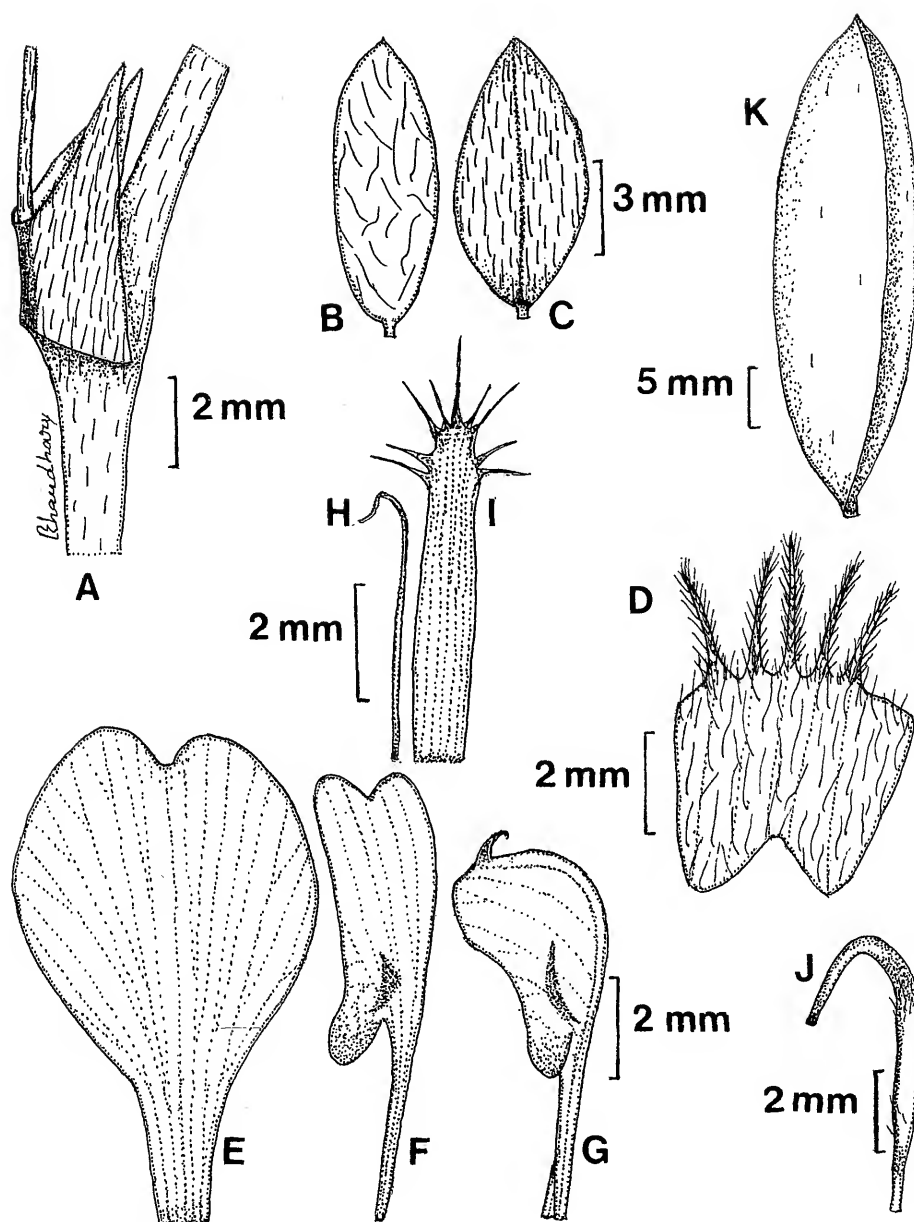


Fig. 2. *Oxytropis zemuensis* (W. W. Smith) Chaudhary. A: Stipules. B: Leaflet (upper surface). C: Leaflet (lower surface). D: Calyx (splitted, outer side). E: Standard. F: Wing petal. G: Keel petals. H: Vexillary filament. I: Staminal sheath. J: Pistil. K: Pod (A–C, K from Cave 1312; D–J from Smith & Cave1222).

spreading hairs above, moderately pilose with white adpressed hairs below. Inflorescence axillary, 2–4-flowered on a peduncle more or less equal to leaf, sparsely

pubescent with adpressed hairs. Flowers ca. 10 mm long, purple; pedicels ca. 2 mm long (ca. 5 mm after anthesis). Calyx ca. 7 mm long, persistent, campanulate, pilose with

mixed blackish-brown and long white, adpressed hairs, tube ca. 4 mm long, lobes ca. 3 mm long, linear, hairy on both sides. Standard ca. 10 mm long, lamina  $6 \times 5$  mm, orbicular, emarginate at apex, claw  $4 \times 1.5$  mm; wing petals ca. 9 mm long, shorter than standard, lamina  $5 \times 2$  mm, oblong-obovate, emarginate at apex, claw 4 mm long; keel petals ca. 7 mm long, shorter than wing petals, lamina  $3 \times 3$  mm, obovate, minutely apiculate at apex, claw 4 mm long. Stamens diadelphous, (9 + 1); vexillary filament ca. 6 mm long, free from staminal sheath; staminal sheath ca. 7 mm long, filaments free in upper part, ca. 1 mm long, alternately shorter and longer. Ovary ca. 4 mm long, linear, shortly stipitate (stipe ca. 1 mm long), almost glabrous; style ca. 2 mm long, incurved from base; stigma capitate, glabrous. Pods large,  $30-42 \times 10-12$  mm, oblong, inflated, acute at apex, sessile, unilocular, glabrescent to glabrous, ca. 20-seeded (from the protologue).

Distribution: India (Sikkim). Endemic.

Phenology: July – September.

Additional specimen examined: INDIA; Sikkim, Zemu, 4000 m, 11. 9. 1915, G. H. Cave 1312 (CAL).

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L. B. チョーダリ：シッキム産 *Astragalus zemuensis* W. W. Smith (マメ科) はオヤマノエンドウ属の植物である

シッキム産のマメ科植物 *Astragalus zemuensis* W. W. Smith は竜骨弁の先端が嘴状に尖るため、オヤマノエンドウ属に移して *Oxytropis zemuensis* (W. W. Smith) Chaudhary の新組み合わせを提唱し、

詳しく再記載を行った。なお、小葉の配列様式がオヤマノエンドウ属とゲンゲ属の区別点とされたことがあったが、現在ではこれは両属を区別する特徴とは認められていない。

(インド・国立植物学研究所)